

Appl. No.: 09/191,629
Amdt. dated March 3, 2004
Reply to Office Action of January 5, 2004

REMARKS/ARGUMENTS

Receipt of the Office Action dated January 5, 2004 is acknowledged. In that Action, the Examiner: 1) rejected claim 57 as allegedly anticipated by admitted prior art; 2) rejected claims 57-61 as allegedly anticipated by Johnson (U.S. Patent No. 6,330,038); 3) rejected claims 1-6, 8-38 and 40-47 as allegedly unpatentable over Dye (U.S. Patent No. 6,067,098); 4) indicated claims 48-52 are allowed; and 5) objected to claims 44 and 45 as being dependent upon a rejected base claim, but otherwise allowable.

With this Response, Applicants amend claims 1-4, 6, 8, 17, 25-32, 34-38, 40 and 44, and cancel claims 5, 19 and 57-61. Thus, the pending claims are 1-4, 6, 8-18, 20-38 and 40-52. Reconsideration is respectfully requested.

I. ALLOWED AND EFFECTIVELY ALLOWED CLAIMS

Applicants appreciate the allowance of claims 48-52. With this Response, Applicants amend claim 44 to be in independent form, including all the limitations of claim 40. Thus, claims 44 and 45 (which depends from claim 44) should be in condition for allowance.

II. CLAIM REJECTIONS

A. Claim 1

Claim 1 stands rejected as allegedly obvious over Dye. Applicants amend claim 1 in several respects. First, because preamble wording may not be given patentable weight, Applicants remove much of the wording from the preamble. Further, Applicants remove the limitation from claim 1 requiring the decoupled refresh rate. Applicants respectfully submit that these are not narrowing amendments. Applicants further amend claim 1 to make more clear that the storing, reading and transferring steps operate on frames of digital television data to more clearly define over the system of Dye which appears to teach the transfer of "display refresh lists." Finally, Applicants amend claim 1 to more clearly indicate that the transmitting is from an interface logic to a graphics controller which displays the frames of digital television data on the display device to define over the integrated memory controller 140 of Dye.

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Applicants respectfully submit that Dye fails to teach or render obvious all the limitations of claim 1. The disclosure of Dye appears to be directed to avoiding the relocation of large portions of video data by transferring, in its stead, display refresh lists.

Thus, when an object or window is moved to a new position on the display screen, the data comprising the object **does not transfer to another location in the system memory 110**. Rather, only the display pointer address is changed in the system memory 110, and this change is reflected in the **display refresh list**. This provides the effect of moving data from a source address to a destination address, i.e., a bit block transfer (bit blit), without ever having to move data comprising the object to a new location in system memory 110.

Dye, Col. 18, ll. 30-39 (emphasis added). Thus, and referring to Dye's Figure 3, video information may be transferred to the integrated memory controller 140 from the video and audio decoder 172, and that video information may then be stored in buffers in the system memory 110. *Id.*; Figure 3. The integrated memory controller 140 then outputs the display directly to the display device 142. Dye, Col. 12, ll. 11-16.

Claim 1, by contrast, recites, "storing incoming frames of digital television data in a first frame buffer of an interface logic; reading outgoing frames of digital television data from a second frame buffer of the interface logic; ... and transmitting frames of outgoing digital television data in the second frame buffer to a graphics controller to be displayed on a display device" If Dye's integrated memory controller 140 is the claimed interface logic, then Dye fails to teach or fairly suggest transmitting the outgoing frames of digital television data to a graphics controller to be displayed on a display device. On the other hand, if Dye's integrated memory controller 140 is the claimed graphics controller, then Dye fails to teach or fairly suggest the storing and reading to frame buffers in the interface logic. For this reason alone, claim 1 should be allowed.

As alluded to above, Dye transfers display refresh lists, rather than frames of data.

Thus, it is noted that the present invention is not required to maintain, and preferably does not maintain, a single frame buffer

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which contains all of the video data for display on the video screen. Rather the video data for the various windows and objects is stored in respective memory areas in the system memory 110, and pointers assembled in the display refresh list are used to reference this data during screen updates.

Dye, Col. 22, ll. 53-60. Thus, rather than moving frames of data into a frame buffer to be displayed, the "display refresh list" may point to a plurality of locations in the system memory from which to build the current display.

Claim 1, by contrast, specifically recites, "storing incoming frames of digital television data ...; reading outgoing frames of digital television data ...; and transmitting the outgoing frames of digital television data" Not only does Dye fail to teach or fairly suggest moving the frames of data from the interface logic to the graphics controller, but Dye specifically teaches away from such a system.

Based on the foregoing, Applicants respectfully submit that claim 1, and all claims which depend from claim 1 (claims 2-4 and 6), should be allowed. Claims 2-4 and 6 have been amended to remove the "step of" terminology to ensure that Section 112, ¶ 6 is not invoked by these claims. Applicants cancel claim 5 as the amendments to claim 1 make the limitations of claim 5 redundant.

B. Claim 8

Claim 8 stands rejected as allegedly obvious over Dye. Applicants amend claim 8 in several respects. First, Applicants remove much of the terminology from the preamble. Further, Applicants amend claim 8 to include a central processing unit and a graphics controller. The CPU and graphics controller find support throughout the Specification (e.g., Figure 2). Applicants add the central processing unit and graphics controller to more clearly define over the integrated memory controller of Dye.

Claim 8 now specifically recites, "a central processing unit (CPU); a graphics controller coupled to the CPU; ... and a digital television/local bus interface logic coupled to the graphics controller by way of the communication bus" The digital television/local bus interface logic is recited to have, *inter alia*, a first frame buffer and a second frame buffer. If Dye's integrated memory controller is the claimed digital television/local bus interface logic, then Dye fails to

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teach or fairly suggest a graphics controller coupled to the CPU. On the other hand, if Dye's integrated memory controller 140 is the claimed graphics controller, the Dye fails to teach or fairly suggest the interface logic having first and second frame buffers.

Based on the foregoing, Applicants respectfully submit that claim 8, and all claims which depend from claim 8 (claims 9-16), should be allowed.

C. Claim 17

Claim 17 was rejected as allegedly obvious over Dye. Applicants amend claim 17 to more clearly indicate that the transmitting of the outgoing digital television data by the local bus is to a graphics controller for display on a display device. Applicants make this amendment to more clearly define over the integrated memory controller of Dye.

Claim 17 recites, "a digital television interface for receiving incoming digital television data" The Office Action dated January 5, 2004, relies on the "host I/F 202" for a teaching of this element. However, and referring to Dye's Figure 4, it is seen that the "CPU local bus I/F 202" is not the mechanism by which audio and video enters the integrated memory controller of Dye. Claim 17 further recites, "a local bus interface for transmitting outgoing digital television data to a graphics controller for display on a display device" While Dye may disclose both a PCI and a USB bus, Dye fails to teach or fairly suggest that the outgoing digital television data should be transferred to a graphics controller over either of these busses. Finally, claim 17 requires both a first frame buffer and a second frame buffer. The Office Action dated January 5, 2004, relies upon Dye's display refresh lists for a teaching of these buffers; however, the refresh lists are not frame buffers.

Thus it is noted that the present invention is not required to maintain, and preferably does not maintain, a single frame buffer which contains all the video data for display on the video screen. Rather, the video data for the various windows and objects is stored in respective memory areas in the system memory 110, and pointers assembled in the display refresh lists are used to reference this data during screen updates.

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Dye, Col. 22, ll. 53-60. Dye thus specifically teaches that the display refresh lists are not only not frame buffers, but are used instead of frame buffers.

Based on the foregoing, Applicants respectfully submit that claim 17, and all claims which depend from claim 17 (claims 18 and 20-24), should be allowed. Applicants cancel claim 19 because the amendment to claim 17 makes the limitation of claim 19 redundant.

D. Claim 25

Claim 25 stands rejected as allegedly obvious over Dye. Applicants amend claim 25 to ensure that the benefits of 35 U.S.C. § 112, ¶ 6, are invoked. Further, Applicants amend claim 25 to make more clear that frames of digital television data are received and transmitted to more clearly define over the system of Dye which appears to transfer only display refresh lists.

Applicants respectfully submit that Dye fails to teach or render obvious all the limitations of claim 25. Dye transfers display refresh lists, rather than frames of data.

Thus, it is noted that the present invention is not required to maintain, and preferably does not maintain, a single frame buffer which contains all of the video data for display on the video screen. **Rather the video data for the various windows and objects is stored in respective memory areas in the system memory 110, and pointers assembled in the display refresh list are used to reference this data during screen updates.**

Dye, Col. 22, ll. 53-60 (emphasis added). Thus, rather than moving frames of data into a frame buffer to be displayed, the display refresh list may point to a plurality of locations in the system memory from which to build the current display.

Claim 25, by contrast, recites, "a first means for storing the incoming frames of digital television data and the outgoing frames of digital television data in alternating manner; a second means for storing the outgoing frames of digital data and the incoming frames of digital television data in an alternating manner" Not only does Dye fail to teach or fairly suggest devices for moving the frames of data in this manner, but Dye specifically teaches away from moving frames of data in favor of "display refresh lists."

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Based on the foregoing, Applicants respectfully submit that claim 25, and all claims which depend from claim 25 (claims 26-33), should be allowed. Applicants amend claims 26-32 to reflect the amendments to claim 25.

E. Claim 34

Claim 34 stands rejected as allegedly obvious over Dye. Applicants amend claim 34 in two respects. First, Applicants amend various limitations of the claim to ensure that the benefits of 35 U.S.C. § 112, ¶ 6, are invoked. Second, Applicants amend the means for transmitting limitation to more clearly indicate that the digital television data handling system transmits the outgoing digital television data to a means for controlling graphics for display, which in turn displays the digital television data on the display device. Applicants make this amendment to more clearly define over the system of Dye.

Applicants respectfully submit that Dye fails to teach or render obvious all the limitations of claim 34. The disclosure of Dye appears to be directed to avoiding the relocation of large portions of video data by transferring display refresh lists. Dye, Col. 18, ll. 30-39. Thus, video information may be transferred to the integrated memory controller 140 from the video and audio decoder 172, and that video information may then be stored in buffers in the system memory 110. *Id.*; Figure 3. The integrated memory controller 140 then outputs the display directly to the display device 142. Dye, Col. 12, ll. 11-16.

Claim 34, by contrast, recites, "a first means for storing the incoming digital television data ...; a second means for storing the incoming digital television data ...; and a means for transmitting the outgoing digital television data in one of the means for storing to a means for controlling graphics for display on a display device when a programmed position of the display device is refreshed." If Dye's integrated memory controller 140 is the claimed handling system, then Dye fails to teach or fairly suggest transmitting the frames of outgoing digital television data to a means for controlling graphics. On the other hand, if Dye's integrated memory controller 140 is the claimed means for controlling graphics, then Dye fails to teach or fairly suggest the first and second means for storing.

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Based on the foregoing, Applicants respectfully submit that claim 34, and all claims which depend from claim 34 (claims 35-38), should be allowed. Applicants amend claims 35-38 to reflect the amendments to claim 34.

F. Claim 40

Claim 40 stands rejected as allegedly obvious over Dye. Applicants amend claim 40 in several respects. First, Applicants add a limitation requiring a central processing unit to more clearly define over the CPU of Dye (which the Examiner construes to be the graphics controller). Further, Applicants remove the limitation regarding the refresh rate as it is not needed to define over the related art.

Claim 40 specifically recites a central processing unit, a graphics controller and a digital television/local bus interface logic. If Dye's CPU 102 is the claimed graphics controller and Dye's interactive memory controller 140 is the claimed digital television/local bus interface (as asserted in the Office Action dated January 5, 2004), then Dye fails to teach a central processing unit. If the central processing units are equivalent, then Dye fails to teach either the graphics controller coupled to the local bus or the digital television/local bus interface logic. For this reason alone, claim 40 should be allowed.

Claim 40 further recites that the digital television/local bus interface logic stores "incoming digital television data and the outgoing television data and selectively provide[s] the outgoing digital television data **over the local bus to the graphics controller ...**" Dye does not teach or fairly suggest such an interface logic.

Based on the foregoing, claim 40, and all claims which depend from claim 40 (claims 41-46), should be allowed.

III. CLAIM CANCELLATIONS

With this Response, Applicants cancel claims 5, 19 and 57-61. The cancellations of claims 5 and 19, as mentioned above, was necessitated by amendment to their respective independent claims. The cancellation of claims 57-61 is merely to narrow the issues before the Examiner, and is without prejudice to later asserting these claims, such as in a continuation application.

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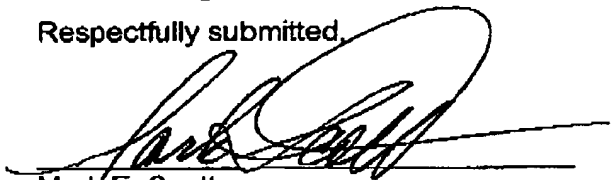
IV. CONCLUSION

Applicants respectfully request reconsideration and allowance of the pending claims. If the Examiner feels that a telephone conference would expedite the resolution of this case, he is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

Applicants respectfully request that a timely Notice of Allowance be issued in this case. If any fees or time extensions are inadvertently omitted or if any fees have been overpaid, please appropriately charge or credit those fees to Hewlett-Packard Company Deposit Account Number 08-2025 and enter any time extension(s) necessary to prevent this case from being abandoned.

Respectfully submitted,



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